

AMENDMENTS TO THE CLAIMS

1. (currently amended) A DNA coding for a polypeptide ~~of the following (A) or (B) wherein the polypeptide comprises:~~

(A) ~~a polypeptide which comprises~~ the amino acid sequence of SEQ ID NO: 48; or

(B) ~~a polypeptide which comprises~~ an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence as defined in (A), ~~and which wherein the~~ polypeptide has an activity to support ~~proliferation or survival of hematopoietic stem cells~~ cell or hematopoietic progenitor ~~cells~~ cell proliferation or survival; or

(C) an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID NO: 48, wherein the polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.

2. (currently amended) The DNA according to claim 1, ~~which is a DNA of the following (a) or (b) comprising:~~

(a) ~~a DNA which comprises~~ the nucleotide sequence of nucleotides 18 to 746 of SEQ ID NO: 47; or

(b) ~~a DNA which is hybridizable with a DNA comprising the nucleotide sequence as defined in (a) or a probe prepared from said DNA, a nucleotide sequence which hybridizes under stringent condition~~ conditions to nucleotides 18 to 744 of SEQ ID NO: 47, and which has wherein the DNA encodes a polypeptide having an activity to support proliferation or survival of hematopoietic stem cells cell or hematopoietic progenitor ~~cells~~ cell proliferation or survival.

3. (currently amended) The DNA according to claim 2, wherein the stringent condition is 6 x SSC, 5 x Denhardt, 0.5% SDS and 68°C (SSC: 3 M NaCl, 0.3 M sodium citrate; 50 x Denhardt: 1% BSA, 1% polyvinyl pyrrolidone, 1% Ficoll 400), or 6 x SSC, 5 x Denhardt, 0.5% SDS, 50% formamide and 42°C.

4. (currently amended) A expression vector which comprises the DNA of ~~any one of claims 1 to 3~~ any one of claims 1 or 2 in such a manner that the DNA can be expressed.

5. (currently amended) ~~A cell~~ An isolated cell into which the DNA of any one of ~~claims 1 to 3~~ claims 1 or 2 is introduced in such a manner that the DNA can be expressed.

6. (currently amended) A polypeptide which is an expression product of the DNA of ~~any one of claims 1 to 3~~ of any one of claims 1 or 2, wherein the polypeptide having ~~has~~ an activity to support ~~proliferation or survival of hematopoietic stem cells~~ cell or hematopoietic progenitor cells cell proliferation or survival.

7. (currently amended) The polypeptide according to claim 6, ~~which comprises~~ comprising the amino acid sequence of SEQ ID NO: 48, or an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence of SEQ ID NO: 48.

8. (currently amended) The polypeptide according to claim 6 ~~or 7~~, which is modified with one or more modifying agents selected from the group consisting of polyethylene glycol (PEG), dextran, poly(N-vinyl-pyrrolidone), polypropylene glycol homopolymer, copolymer of polypropylene oxide/ethylene oxide, polyoxyethylated polyol and polyvinyl alcohol.

9. (currently amended) ~~An~~ A monoclonal antibody which binds to the polypeptide of any one of ~~claims 6 to 8~~ claims 6 or 7.

10. (currently amended) A method for supporting ~~proliferation or survival of hematopoietic stem cells~~ cell or hematopoietic progenitor cells cell proliferation or survival, comprising the step of co-culturing stromal cells ~~in which~~ comprising a DNA ~~encoding for~~ encoding a polypeptide ~~of the following (A) or (B)~~ under conditions in which the polypeptide is expressed, with hematopoietic stem cells or progenitor cells,

~~(A) — a polypeptide which comprises~~ wherein the polypeptide comprises

(A) ~~the amino acid sequence of SEQ ID NO: 48; or~~

(B) ~~a polypeptide which comprises an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence as of SEQ ID NO: 48 defined in (A), and which has wherein the polypeptide has an activity to support proliferation or survival of hematopoietic stem cells cell or hematopoietic progenitor cells cell proliferation or survival.~~

11. (currently amended) The method according to claim 10, wherein the DNA is ~~a DNA of the following (a) or (b) comprises:~~

(a) ~~a DNA which comprises the nucleotide sequence of nucleotides 18 to 746 of SEQ ID NO: 47; or~~

(b) ~~a DNA which is hybridizable with a DNA comprising a nucleotide sequence that hybridizes the nucleotide sequence as defined in (a) or a probe prepared from said DNA, under the stringent condition conditions to nucleotides 18-746 of SEQ ID NO: 47, and wherein the polynucleotide encodes a polypeptide having which has an activity to support proliferation or survival of hematopoietic stem cells cell or hematopoietic progenitor cells cell proliferation or survival.~~

12. (currently amended) A method for supporting ~~proliferation or survival of~~ hematopoietic stem cells cell or hematopoietic progenitor cells cell proliferation or survival, comprising ~~the step of~~ (a) culturing hematopoietic stem cells or progenitor cells in the presence of a polypeptide ~~of the following (A) or (B), wherein~~ said polypeptide ~~having~~ has an activity to support ~~proliferation or survival of~~ hematopoietic stem cells cell or hematopoietic progenitor cells cell proliferation or survival when the hematopoietic stem cells or hematopoietic progenitor cells are cultured in the presence of the polypeptide, said polypeptide comprising

(A) ~~a polypeptide which comprises the amino acid sequence of SEQ ID NO: 48; or~~

(B) ~~a polypeptide which comprises an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence as~~

~~defined in (A) of SEQ ID NO: 48, and which has an~~ wherein said polypeptide has activity to support proliferation or survival of hematopoietic stem cells cell or hematopoietic progenitor cells cell proliferation or survival.

13. (currently amended) A pharmaceutical composition having an effect to support proliferation or survival of hematopoietic stem cells or hematopoietic progenitor cells, ~~which comprises~~ comprising an effective amount of a polypeptide ~~of the following (A) or (B), said polypeptide~~ having an activity to support proliferation or survival of hematopoietic stem cells or hematopoietic progenitor cells when hematopoietic stem cells or hematopoietic progenitor cells are cultured in the presence of the polypeptide, said polypeptide comprises

(A) ~~a polypeptide which comprises~~ the amino acid sequence of SEQ ID NO: 48; or

(B) ~~a polypeptide which comprises~~ an amino acid sequence including deletion, substitution or insertion of one or several amino acids in the amino acid sequence as ~~defined in (A) of SEQ ID NO: 48, and which~~ wherein said polypeptide has an activity to support ~~proliferation or survival of hematopoietic stem cells cell or hematopoietic progenitor cells cell proliferation or survival.~~

14. (new) A polypeptide comprising an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID NO: 48, wherein the polypeptide has an activity to support hematopoietic stem cell or hematopoietic progenitor cell proliferation or survival.